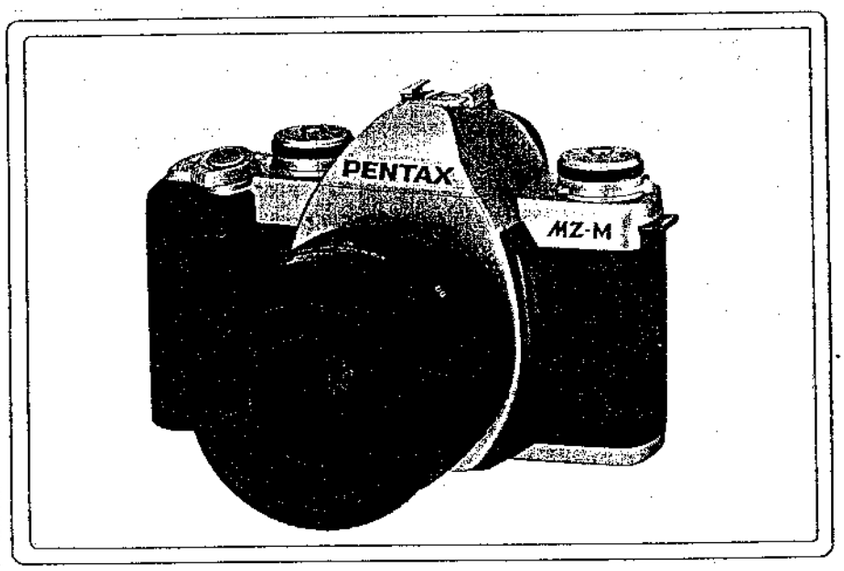
PENTAX®

Service Manual

ENGLISH

PENTAX MZ-M QUARTZ DATE



PRODUCT No. 27390 MZ-M QUARTZ DATE

PRODUCT No. 27394 ZX-M

PRODUCT No. 27396 MZ-M

PRODUCT No. 27398 ZX-M QUARTZ DATE

LOCATION QUANTITY DELIVERY#

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CAMERA SERVICE MANUAL

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Service Engineering Section.

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Table of contents

	Page
Specifications	1
LCD and viewfinder indications	2
Disassembly and assembly procedure	
Outline	2
1. Lead wires from Top cover	2
2. Main unit and soldering	3
3. Photo sensor position	4
4. Adjustment and check with computer program	5
Testers, jigs and tools	5
Program software flow chart	6

Specifications

Type — Multi-Exposure Mode 35mm SLR

Format — 24x36mm

Usable Film — 35mm perforated cartridge film. DX-coded film with ISO 25-5000; non-DX coded films with ISO 6-6400

Exposure Modes — Programmed AE Mode, Shutter-Priority AE Mode, Aperture-Priority AE Mode, Metered Manual Mode, Bulb Mode,

Shutter — Electronically controlled vertical-run focal-plane shutter, Electromagnetic release, Speed range: (1) Auto 1/2000-30 sec. (stepless), (2) Manual 1/2000-2 sec. (3) Bulb,

Lens Mount — Pentax K$_{A2}$ bayonet mount (K-mount with lens information contacts)

Compatible Lens — Pentax K$_{A2}$, K$_{AF}$, K$_{A}$, and K-mount lenses are usable.

Viewfinder — Pentamirror finder, Matte field and sprit-image spot with microprism collar focusing screen, Field of view: 92%, Magnification:0.77X (with 50mm lens at infinity), - 1.0 diopter eyepiece

Viewfinder Indication – Shutter speed indication, Aperture indication, Flash ready indication, [ϟ]Bar graph (exposure compensation), Over or Under exposure indication in Manual Exposure Mode, [⊡] exposure compensation indication, [✳] memory lock indicator

External LCD panel Indication — [P]=ProgrammedAE Mode, [Tv]=Shutter-Priority AE Mode, [Av]=Aperture-Priority AE Mode, [M]=Manual Exposure Mode, Film speed=6 - 6400, ISO indication, [⊙]=Film status information, [▯]=Battery exhaustion warning, Film counter=0-99

Preview Button — Electronically controlled. Useable in all exposure modes

Self-timer — Electronically-controlled type with delay time of 12 sec. Start by depressing of shutter release button, Operation confirmation: by PCV beep tone. Cancelable after starting.

Mirror — Quick-return mirror

Film Loading — Film advances automatically to 1st frame after back cover is closed, Film information window is provided

Film Wind & Rewind — Auto wind/rewind by built-in motor, Consecutive or Single advance mode, Approx.2 frames/sec.(consecutive mode), Auto rewinding starts at end of roll, Film rewind/completion of rewinding is displayed on the LCD panel, mid-roll rewind button will rewind film in mid-roll

Exposure Meter — With FA-, F-, or A-series lenses: TTL multi (2)-segment metering, Metering range from EV1 to EV17.5 at ISO100 with 50mm f/1.4 lens
With M-series, screw-mount, or any other lens that does not have information contacts: Center-weighted metering.

Exposure Compensation — +/ 3EV in 0.5EV step increments

Flash sync — Hot shoe with X-contact with couplings for Pentax dedicated auto flashes (except FTZ-series flashes), ISO range=25-800

Flash sync speed — 1/100 sec. or slower

Power Source — Two 3V lithium battery (CR2 or equivalent)

Battery Exhaustion Warning — Battery exhaustion symbol [▯] is lit (blinking when the shutter is locked).

Dimension and Weight – 135.0mm (W) x 90.5mm (H) x 55mm (D) (5.3"x3.6"x2.2") 305g (10.8 oz) body only without batteries

Date Model
Date mechanism —— Crystal quartz controlled LCD with digital clock, auto calendar up to 2019. 7-segment, 6-digit liquid crystal display

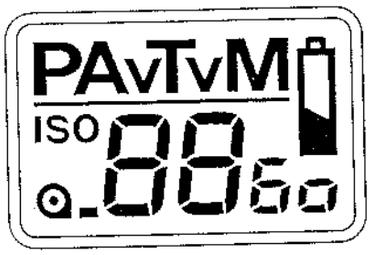
Imprinting mode —— Year / Month / Day, Day / Month / Year, Month / Day / Year, Day / Hour / Minute, and " ------ " (blank)

Dimension and Weight–135.00mm (W) x 90.5mm (H) x 55mm (D) (5.3"x3.6"x2.2") 320g (11.3 oz)

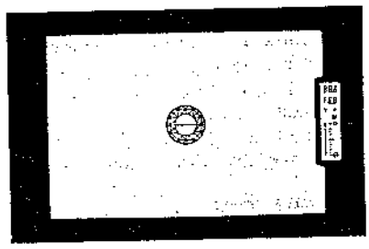
Supplied Accessories–Hot Shoe Cover FC, Release Socket Cap F, Camera Strap FG, Eye Cup FH, Finder Cap

Back cover ———— Interchangeable for replacing Data Back FJ

LCD and viewfinder indications



P : Programmed AE
Av : Aperture-Priority AE
Tv : Shutter-Priority AE
M : Metered Manual Mode
88 : Frame Counter
: Film Status Information
: Battery Exhaustion Warning
ISO : Film Speed Setting Signal
88 : Film Speed Information



: Microprism
: Split-image
8855 : Shutter Speed
F8.8 : Aperture Value
: Flash Status Information
: Exposure Compensation
: Bar Graph (p.31, 33)
: Memory lock (p.34)

Disassembly and assembly procedure

Outline:

Disassembly and assembly procedures for MZ-M are almost the same as MZ-5N (Prod. No. 27380) except autofocus, panorama mech., flash unit and their related parts.

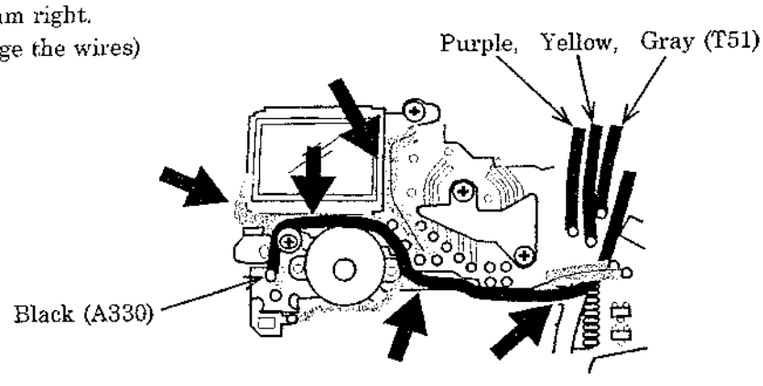
The only exclusive notice of assembly for MZ-M is mentioned below.

For others, refer to the service manual for MZ-5 (Prod. No. 27250) and the service parts list (Exploded illustration and Distributing wires) for MZ-M.

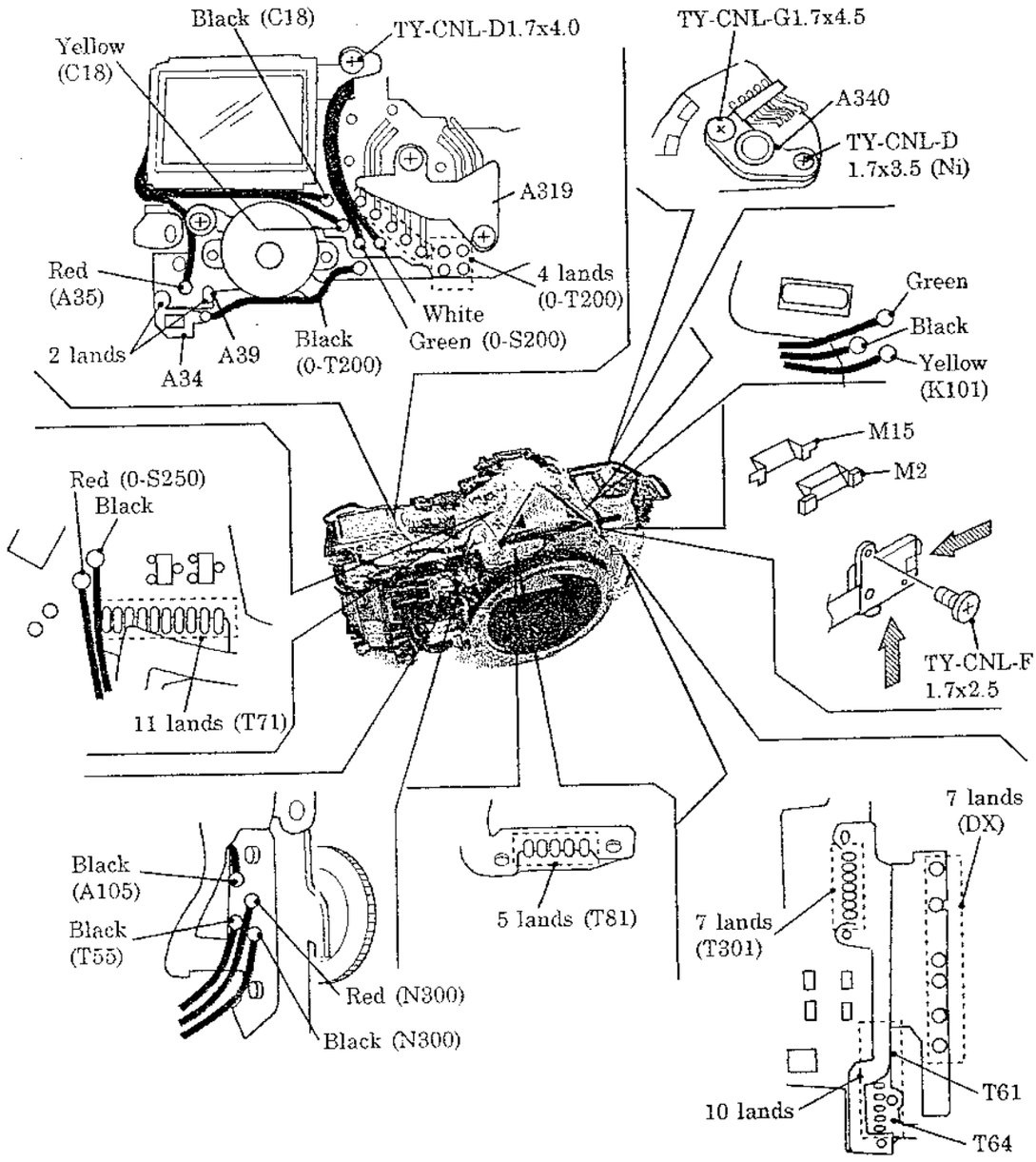
1. Lead wires from Top cover

Refer to the diagram right.

(➡ : Arrange the wires)



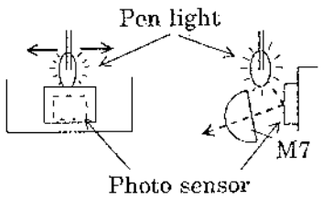
2. Main unit and soldering
Refer to the diagram below.



3. Photo sensor position

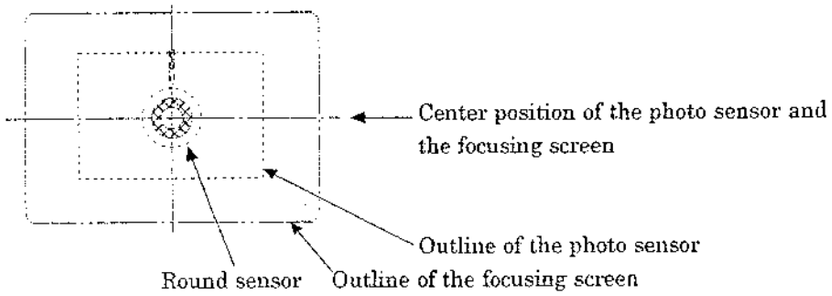
【 Required equipment 】 Pen light or equivalent

1) Remove M16 (Flat lens) from the eyepiece.
2) Cover the eyepiece with a black tape.
3) Strike light by a pen light to the photo sensor as shown in the diagram right, and search the position where the pattern of the photo sensor can be seen on the mirror from the mount ring side.



4) 【 Confirmation 】

Confirm the photo sensor in which should be positioned as shown in the diagram below.

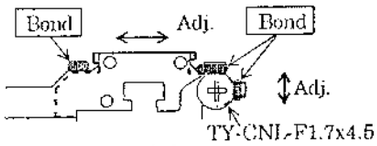

Center position of the photo sensor and the focusing screen
Outline of the photo sensor
Round sensor
Outline of the focusing screen

【 Reference 】 If a lens with a large aperture (ex. FA 50mm f/1.4) is mounted on the body, the pattern of the photo sensor will be seen easily on the mirror.

4) 【 Adjustment 】

Loosen the screw (TY-CNL-F1.7x4.5), and then move the entire photo sensor for the positioning adjustment.

5) After the adjustment is done, tighten the screw and confirm the position again. Then apply a bond to fix the photo sensor as shown in the diagram right.
6) Re-install M16 and apply a bond to fix it.



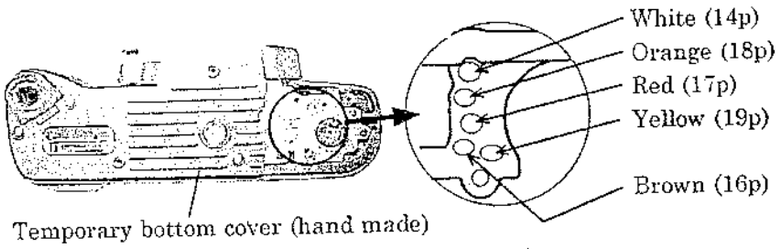
■ Rear view of photo sensor

4.Adjustment and check with computer program (AE)

【 Required equipment 】

☐ Programmed software for 27390 (exclusive equipment) ,
☐ Personal computer, ☐ Color display, ☐ Serial interface, ☐ Interface buffer,
☐ I/F buffer cable for 27250 (MZ-5), ☐ Regulated DC power supply, ☐ Battery (CR2),
☐ Power SW adapter, ☐ Shutter tester (7PE-25A3, EC-5000/8000 type),
☐ Light measuring master lens for LX, ☐ Diaphragm F8 setting ring K,
☐ DC power adapter (hand made, refer to the service manual for 27250 on page 24),
☐ Temporary bottom cover (hand made) and a battery cover,

1) Solder 5 lead wires from the I/F buffer cable for 27250.



2) Install a temporary bottom cover and a battery cover, set the battery to the body, and install the power SW adapter to the release socket.
3) Using the programmed software for 27390, check and adjust by following the flow chart. (Refer to the Program software flow chart on page 6)

Testers, jigs and tools

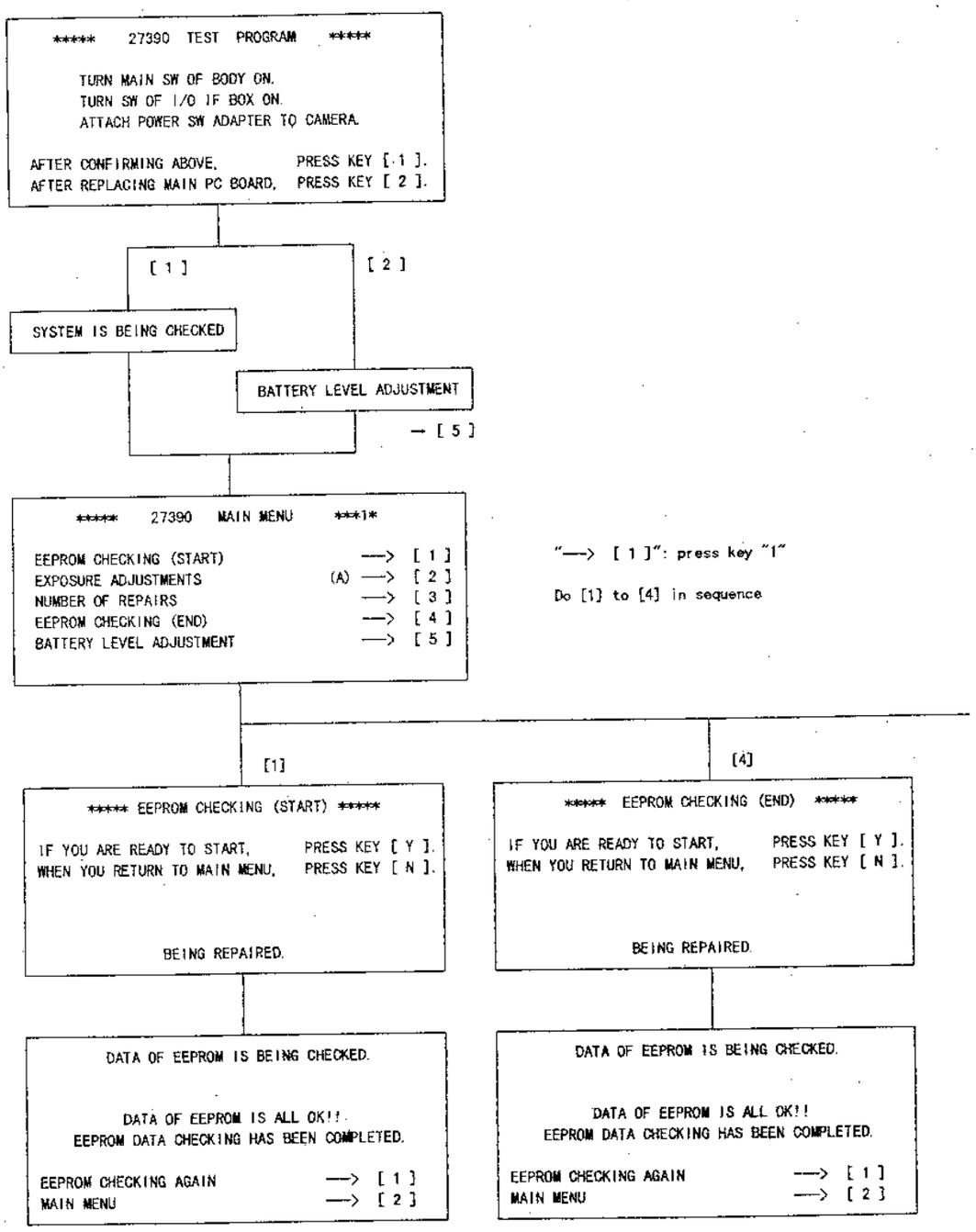
☆ Exclusively used for MZ-M/ZX-M

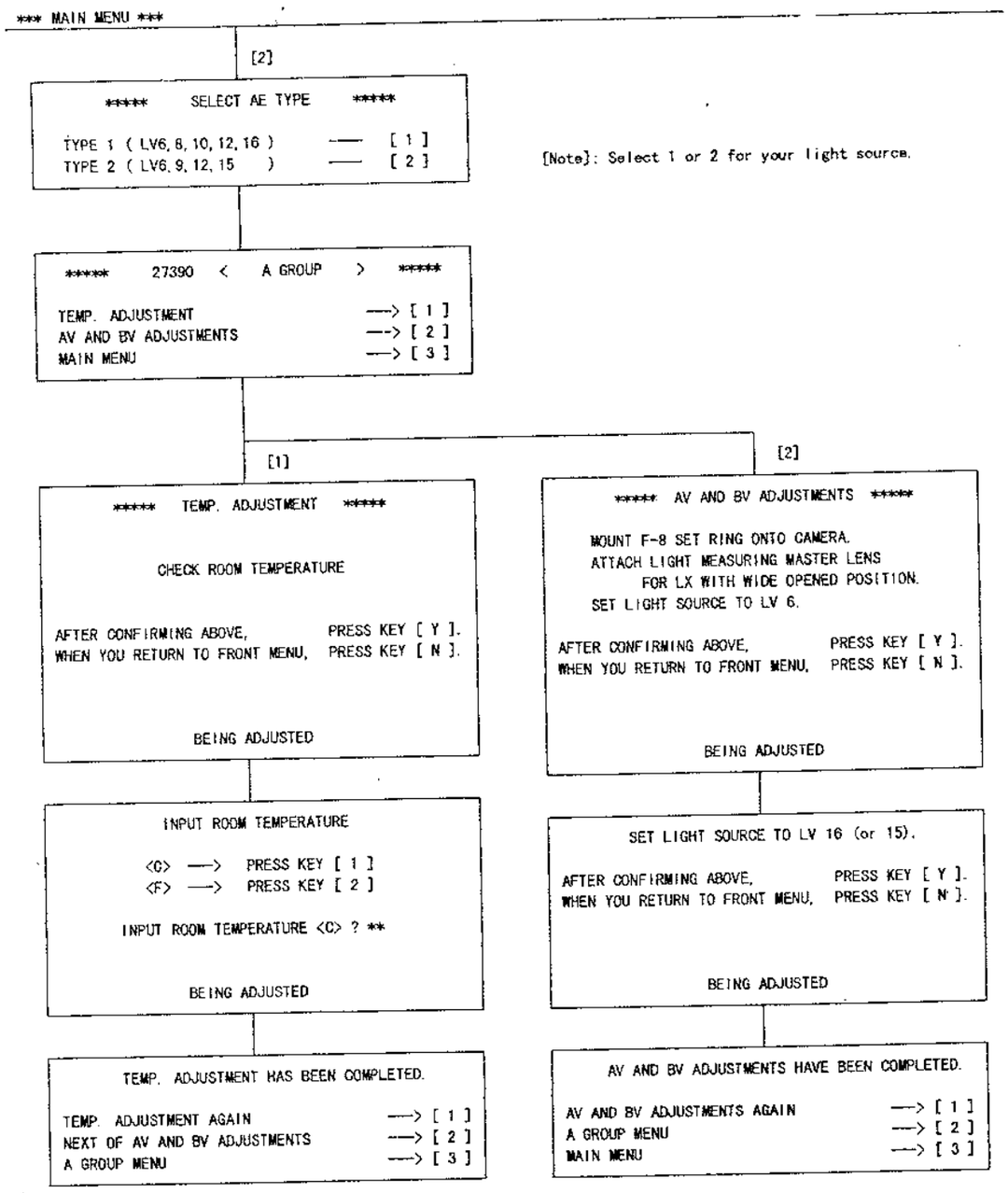
1) Program software for 27390

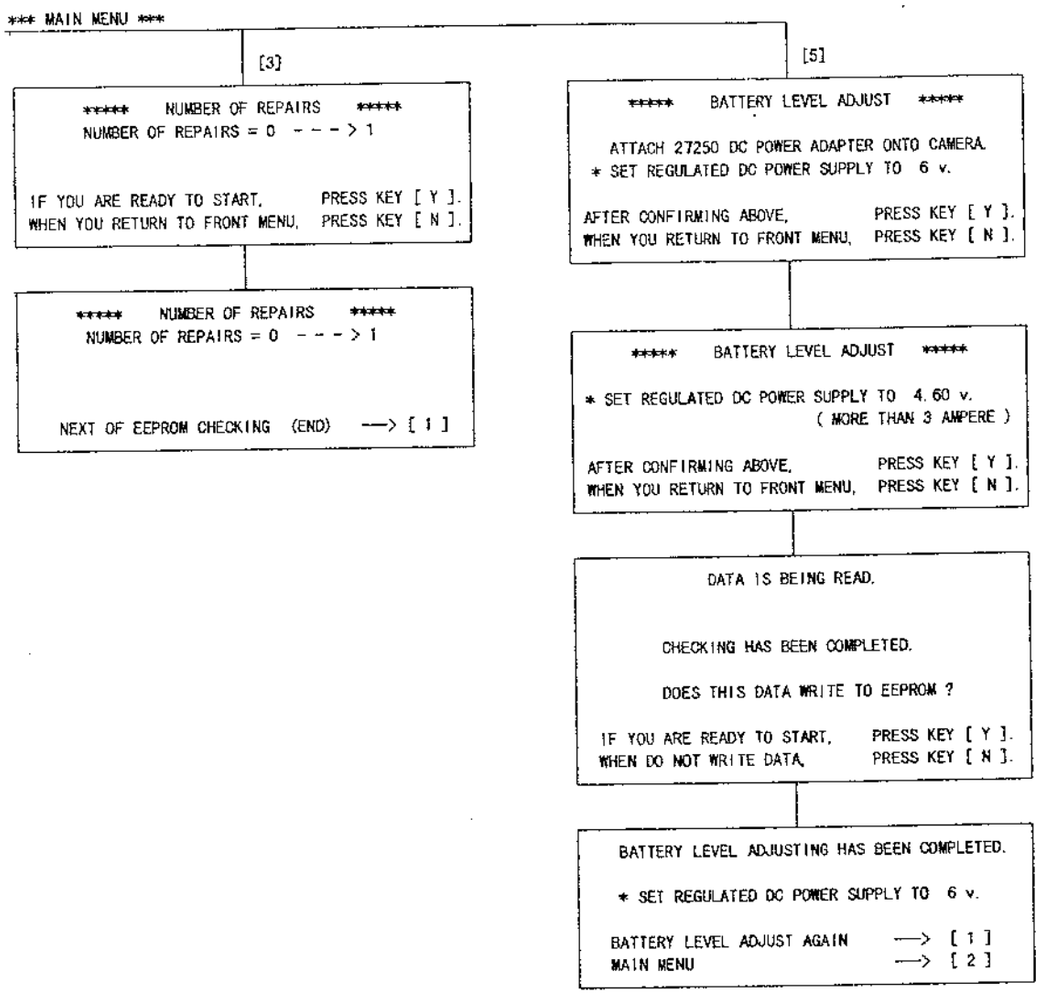
Description of order	Order No.	Remark
PROGRAMMED SOFT PC/AT 27390 (5 inch)	95901-M246-00A	5 inch FD for PC/AT
〃 (3.5 inch)	95901-M246-00B	3.5 inch FD 〃

☆ Others are used in common with MZ-5 except items for AF and TTL-flash adjustments. Refer to the service manual for MZ-5 (Prod. No.27250).

Programed software flow chart


***** 27390 TEST PROGRAM *****
TURN MAIN SW OF BODY ON.
TURN SW OF I/O IF BOX ON.
ATTACH POWER SW ADAPTER TO CAMERA.
AFTER CONFIRMING ABOVE, PRESS KEY [1].
AFTER REPLACING MAIN PC BOARD, PRESS KEY [2].
[1]
[2]
SYSTEM IS BEING CHECKED
BATTERY LEVEL ADJUSTMENT
— [5]
***** 27390 MAIN MENU ***1*
EEPROM CHECKING (START) —> [1]
EXPOSURE ADJUSTMENTS (A) —> [2]
NUMBER OF REPAIRS —> [3]
EEPROM CHECKING (END) —> [4]
BATTERY LEVEL ADJUSTMENT —> [5]
"—> [1]": press key "1"
Do [1] to [4] in sequence
[1]
[4]
***** EEPROM CHECKING (START) *****
IF YOU ARE READY TO START, PRESS KEY [Y].
WHEN YOU RETURN TO MAIN MENU, PRESS KEY [N].
BEING REPAIRED.
***** EEPROM CHECKING (END) *****
IF YOU ARE READY TO START, PRESS KEY [Y].
WHEN YOU RETURN TO MAIN MENU, PRESS KEY [N].
BEING REPAIRED.
DATA OF EEPROM IS BEING CHECKED.
DATA OF EEPROM IS ALL OK!!
EEPROM DATA CHECKING HAS BEEN COMPLETED.
EEPROM CHECKING AGAIN —> [1]
MAIN MENU —> [2]
DATA OF EEPROM IS BEING CHECKED.
DATA OF EEPROM IS ALL OK!!
EEPROM DATA CHECKING HAS BEEN COMPLETED.
EEPROM CHECKING AGAIN —> [1]
MAIN MENU —> [2]


*** MAIN MENU ***
[2]
***** SELECT AE TYPE *****
TYPE 1 (LV6, 8, 10, 12, 16) —— [1]
TYPE 2 (LV6, 9, 12, 15) —— [2]
[Note]: Select 1 or 2 for your light source.
***** 27390 < A GROUP > *****
TEMP. ADJUSTMENT —> [1]
AV AND BV ADJUSTMENTS —> [2]
MAIN MENU —> [3]
[1]
[2]
***** TEMP. ADJUSTMENT *****
CHECK ROOM TEMPERATURE
AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].
BEING ADJUSTED
***** AV AND BV ADJUSTMENTS *****
MOUNT F-8 SET RING ONTO CAMERA.
ATTACH LIGHT MEASURING MASTER LENS
FOR LX WITH WIDE OPENED POSITION.
SET LIGHT SOURCE TO LV 6.
AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].
BEING ADJUSTED
INPUT ROOM TEMPERATURE
<C> —> PRESS KEY [1]
<F> —> PRESS KEY [2]
INPUT ROOM TEMPERATURE <C> ? **
BEING ADJUSTED
SET LIGHT SOURCE TO LV 16 (or 15).
AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].
BEING ADJUSTED
TEMP. ADJUSTMENT HAS BEEN COMPLETED.
TEMP. ADJUSTMENT AGAIN —> [1]
NEXT OF AV AND BV ADJUSTMENTS —> [2]
A GROUP MENU —> [3]
AV AND BV ADJUSTMENTS HAVE BEEN COMPLETED.
AV AND BV ADJUSTMENTS AGAIN —> [1]
A GROUP MENU —> [2]
MAIN MENU —> [3]


*** MAIN MENU ***
[3]
***** NUMBER OF REPAIRS *****
NUMBER OF REPAIRS = 0 - - - > 1
IF YOU ARE READY TO START, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].
***** NUMBER OF REPAIRS *****
NUMBER OF REPAIRS = 0 - - - > 1
NEXT OF EEPROM CHECKING (END) ---> [1]
[5]
***** BATTERY LEVEL ADJUST *****
ATTACH 27250 DC POWER ADAPTER ONTO CAMERA.
* SET REGULATED DC POWER SUPPLY TO 6 v.
AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].
***** BATTERY LEVEL ADJUST *****
* SET REGULATED DC POWER SUPPLY TO 4.60 v.
(MORE THAN 3 AMPERE)
AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].
DATA IS BEING READ.
CHECKING HAS BEEN COMPLETED.
DOES THIS DATA WRITE TO EEPROM ?
IF YOU ARE READY TO START, PRESS KEY [Y].
WHEN DO NOT WRITE DATA, PRESS KEY [N].
BATTERY LEVEL ADJUSTING HAS BEEN COMPLETED.
* SET REGULATED DC POWER SUPPLY TO 6 v.
BATTERY LEVEL ADJUST AGAIN ---> [1]
MAIN MENU ---> [2]